

# THE Saturday Magazine.

No. 236.

MARCH

5TH, 1836.

PRICE  
ONE PENNY



UNDER THE DIRECTION OF THE COMMITTEE OF GENERAL LITERATURE AND EDUCATION  
APPOINTED BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

RUSSIA. No. II.



COTTAGE OF THE RUSSIAN SERF.

## RUSSIAN PEASANTRY.

It is a remark as true as it is trite, that, to appreciate aright the blessings that cluster round our homes, we must leave them. Much may be gathered from the reports of others, yet the conviction is less deeply impressed than when the result of personal experience. None but he who has felt them, can tell the fond yearnings of heart with which the resident in a foreign country recalls the scenes of his native land. He may engage in the bustling pursuits of commerce; he may abandon himself to the allurements of an intellectual profession; he may mingle in the society of the learned or the gay; yet still will the remembrance of the home, the quiet, perhaps humble home, of his childhood, often fill his eye with no unmanly tears, and make his heart overflow with a pure feeling which not all

The dreary intercourse of daily life

can deaden or repress. His career may be brilliant, but they who would have hailed his success are far away, estranged, perhaps, by protracted absence, or gathered to their fathers.

The friends that throng around him may be kind and true, but they are not like the friends of his own country, and of earlier years. Friendship like our

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own oak, will but ill bear transplanting,—it loves its own soil, and grows best round our homes: there it strikes deepest root, and most widely extends its welcome shade; there its outstretched arms yield a sure refuge when storms are abroad; but he that would seek their shelter must not widely range. Who would not wish they should droop over his last place of sleep? How different is it from the unstable exotics, too often cherished for it, that rear their feeble stems, and expand their showy flowers amidst the artificial scenes of after-life; things for sunshine and calm, bought at too dear a price, and withered by a breath.

At home, hedged in by household comforts and girt by a friendly circle, the affections of an individual may find ample scope, nor feel a wish to roam. But torn from thence, and settled in a foreign country, they take a wider range. Every object connected with the land of his nativity shares his fond regard. Is it England? with what honest pride he views her stately pre-eminence among the nations; her glorious institutions,—her dignified rank in arts and sciences,—the mighty names that adorn her literature, to which every nation, by translations, has paid, and is daily paying, its homage. With what delight he dwells on the matchless beauties of her rich and

cultivated scenery. "Distance lends enchantment to the view;" the excrescences with which time may perhaps have incrustated some of her venerable establishments, are, to his eye, lost in the colossal grandeur of the whole, that throws its broad shadow over every minor blemish. He sees but what is lovely; he sees not the squalid want that too often haunts the streets, nor the cheerless poverty that infests the hovel of the poor; he thinks but of the clean, tidy, active artisan, and his neat, comfortable home,—the sturdy, healthy peasant, and his snug whitewashed cottage, with its thatched roof, its paddock and its garden.

Snug, neat, comfortable; we love to dwell upon the words:—they are English, purely, exclusively, English,—words it were vain to attempt to translate into another tongue,—the attributes of qualities that love to nestle round the Englishman's fire-side, and are vainly sought elsewhere. Would he feel their full force, he needs but look around him, and with the tear of gratitude glistening in his eye, compare his own lot, humble though it may be, with that of the Russian serf, whose cheerless dwelling we are about to describe.

But before entering upon this subject, let us beg you, reader, to pardon this long preamble of one, who, himself a stranger in a foreign country, animated by the warmest filial love to his father-land, and valuing his birthright as an Englishman, has given vent only to the overflowings of his own heart; and who, if disappointed hopes should prompt in your mind one wish to wander, would urge you to remember, that where one individual has returned to his home a man of wealth, thousands of broken-hearted have hidden their untold miseries in an exile's grave. Of these some simple tales of sorrow might be told, the recital of which, like the moaning of the wintry wind about your happy dwelling, would make you draw your household comforts more closely around you, and bless the kind Providence that placed and shelters you where you are.

Not only the houses of the peasantry, but even most of the country seats of the Russian nobility are built of wood. The latter are not unfrequently constructed with considerable elegance, and externally adorned with taste, but they are wholly destitute of what in England are considered, the little essential luxuries of refined life. The former are not sprinkled over the face of the country, as are the cottages of the English labourers, but are grouped together in numbers of from 10 to 200, and ranged along the road in straggling lines; we dare not call them villages, the term is endeared to our remembrance by too much that is lovely, to furnish so gross a misapplication of the word. Their novelty may at first interest, but this feeling is soon lost in the incessant repetition of the same object.

The same in internal arrangement and external appearance, and differing only in minor details, the description of one Log House may serve to give a very tolerable idea of the whole, individually or collectively.

It is constructed of trunks of trees stript of their bark, and placed horizontally one upon the other, the ends morticed together, and the interstices caulked with dried moss. The gable end of the high pointed roof is always to the front, and overhangs the wall two or three feet; it is generally covered in with bark or planks, on which is laid loose straw, secured by long poles fastened across it. In some few places they have attempted the luxury of thatch. To each house is annexed a spacious yard, surrounded by open sheds for cattle, the whole closed in by large

folding doors that open upon the road. To the front wall of each house is attached a board, on which is painted a rude representation of the instrument which its occupant is bound to contribute in cases of fire, in order to aid in extinguishing it.

The interior accommodation is limited to one room, entered from a dark passage by a very low door. Against the walls of rudely-hewn timber, unplastered and grimed with smoke, are ranged benches, originally unplanned, but to which long use has given a greasy smoothness. On the floor, formed of loose thick boards, with gaping crevices between, lies the accumulated filth of years.

In one corner hangs the sacred lamp lighted on festivals before the consecrated pictures of the patron-saints of the family. These representations, as may be well imagined, are in general miserably executed. Sometimes the whole surface is incrustated with a thin plate of embossed silver, through which the face and hands of the figure are alone allowed to appear. They are frequently decorated with palm-branches, or votive offerings, such as gay-coloured embroidered ribbons and wreaths of artificial flowers. The serf never enters the room without bending to these his "Penates," crossing himself reverently, and murmuring an ejaculatory prayer; nor will many of them slake their thirst with a draught of water without doing the same. Their genuflexions after every meal are frequent and prolonged. Some of the more devout will prostrate themselves on the floor, or touch it with their foreheads, ten or twelve times in the course of their devotions.

Nearly one-fourth of the apartment is occupied by an enormous stove, the flat top of which is the favourite sleeping-place in Winter, where man and child, matron and maid, lie huddled together in a mass, divested only of their warm out-door clothing. They have no blazing hearth around which to gather in friendly chat, during the long dreary evenings of Winter; sleep is the only luxury a peasant enjoys, and in this he indulges, night or day, whenever he can steal an hour from his labours. The coarse black bread, their sour cabbage-soup, and their boiled buck-wheat, are all prepared in this oven. It also answers the purpose of a vapour-bath, where such is not to be found. The method of using it is this: the patient, divesting himself of his clothes, crawls into it, carrying with him a vessel containing water, which he throws at intervals upon some bricks that have been heated for the purpose; the mouth of the stove is closed, and in it he lies, sweltering in the steam thus generated, and rubbing himself vigorously with a kind of leafy besom of birch-branches, till profuse perspiration bursts from every pore. When he can no longer endure it, he creeps out of the oven, and rolling himself in his long sheep-skin coat, gains the snuggest, that is to say, the warmest corner on its top, and after a few preliminary scratches, indulges in his prime comfort, a long sound sleep.

In very many places there are no chimneys, and the smoke is allowed to escape through crevices in the roof, or a hole in the wall; consequently, whenever the stove is heated, the apartment is filled with dense volumes of stifling smoke, which render respiration actually impossible to those unaccustomed to it. The only alternative is to lie down on the floor till the fume has passed away.

The culinary utensils are of the most primitive kind; a few unglazed black earthen pots of various sizes, in fashion such as might have been those in use in the days of Rurik, are all they possess. Plates, knives and forks, are very rarely to be found among

them, nor are they much needed. On feast-days, (when it is indulged in on a large scale,) the meat is cut in pieces with the huge family knife, and placed upon the middle of the table on a platter, from which each individual helps himself with a little wooden spoon or ladle with which he is provided.

Near the stove is suspended an earthen vessel for water, resembling a double-spouted tea-pot, and beneath this is a tub, into which is thrown the dirty water, and any filth that is not destined to rot upon the floor. When he washes, it is here the peasant does so, by pouring the water from the vessel above, and allowing it to trickle over his hands and face into that below; a sort of family towel hangs near, and is used for all purposes. By-the-by, when clean, that is to say, when new, some of these towels are really pretty; they are sometimes showily ornamented with fringes of open lace-work, coarsely executed, but, nevertheless, not inelegant in its design. The candles in use are home-made, and being composed of unpurified tallow, emit the most nauseous smell; sometimes for these is substituted an iron dish, in which is burnt refuse fat, tallow, or coarse oil; the wick is a piece of rope. In the ruder hovels neither of these are found; instead of them they make use of long strips of wood, like laths, which are stuck in a crevice of the wall, or fixed in a frame, made of an upright of wood, in the top of which are three diverging prongs of iron, between which the lath is inserted,—such an one is represented on the right hand of the engraving we have given.

The uncertain flickering light of these resinous torches produces a highly picturesque effect,—now feebly glimmering through the gloom that invests every object, and then throwing its brilliant glare on the savage scene and the wild figures of the peasantry.

The dress of the common serf consists of a red print shirt, reaching half-way down to the knees, with large gussets of blue under the arms; beneath this are worn wide trousers of canvas, or striped ticking; from the knee downwards, and round the feet, are rolled strips of canvas linen cloth, bound with a cord. The shoes are of birch bark, plaited in shreds of about three-fourths of an inch in width, much in the way of the old-fashioned list-slippers; they are immensely large and very ugly, but well calculated for winter wear. In summer, above this dress he wears a "caftan" of coarse gray drugget, of the kind used in England for covering carpets, but of much inferior quality. In winter, a long sheep-skin coat, called a "shooba," belted round the waist by a sash of crimson worsted. His hat is conical, with a broad brim curled up all round; it is generally adorned with leaden buckles, and occasionally with the end of a peacock's feather. The winter cap is high, square, and stuffed with feathers for warmth; it is of red or blue cotton-velvet, with a band of dark fur round the brows. The whole apparel of the female is comprised in two articles,—an under garment of linen with wide sleeves, reaching to the elbow, and a skirt of printed cotton or of plaid stuff, of the gayest colours; shoes and stockings are far from general. If unmarried, the hair is braided in two tresses, which hang down to the middle of the back,—the ends are tied with a bow of red ribbon; if a wife or widow, she wears, instead of bonnet or cap, which are never seen, a cotton hand kerchief bound round the head. In some districts the women wear a kind of coronet, embroidered with various devices in different colours, and sometimes with beads; this varies in almost every government or province; in some it is high and pointed, rising

like a horn over the brows, in some crescent-shaped, in others square.

The peasant men, of the better class, are habited in precisely the same style, excepting that the coarse gray caftan is replaced by one of finer blue cloth, and the bark shoes are exchanged for strong leather boots.

On gala days the women wear, instead of the ordinary skirt, a crimson cotton dress, called a "sarafan," which is ornamented with a stripe of gold embroidery down the front and round the edges. The head-dress is also richly worked in gold or silver upon a crimson ground. This vestment is, of course, expensive, and only within the reach of the comparatively wealthy; it generally descends from generation to generation as an heir-loom, and is, perhaps, used only three or four times in the year.

This peculiarly national dress is highly picturesque, and sometimes really splendid. By an order of the present empress, dictated by equal good taste and patriotic feeling, it has been adopted as the court-dress of the Russian "ladies of honour;" as such, composed of ample folds of the richest crimson velvet, glittering with the most costly embroidery, and sparkling with jewels, it is one of the most gorgeous that can be imagined. An inquiry into the origin of this dress would be very interesting, but it would involve too long a discussion, and would be misplaced here.

With the political station of the Russian peasant we have nothing to do; the question is altogether out of our province; and as we intend to make his moral and intellectual capabilities the subject of another article, we shall abstain from touching upon them at present; suffice it to say, that the character of the Russian boor, as he has been contemptuously styled, is ill appreciated, not only by foreigners but even by the Russian nobility themselves. He has been represented as a degraded soulless being, scarcely admissible within the pale of humanity, on whom the blessings of education, and the comforts of civilized life, would alike be thrown away. Degraded in station, and buried in the gloom of ignorance, he may be; yet still, beneath his rude exterior, and within his uncultivated mind, lurk the germs of moral qualities that must raise him to a much brouder station in the great family of man.

We do not like that spirit of egotistical exclusiveness, that would arrogate for one class of men a capacity of mind superior to that of another; we love rather to look upon the minds of all men as emanating from one common fountain, the "Giver of every good and perfect gift," although sullied, alas! too soon, and taking their tone from the spot on which they are cast, or the medium through which they are seen; as the rays of light, all flowing from one pure source, are yet reflected of varied hues, according to the surface on which they fall, or are tinged by the substance through which they pass. H. F.

If men of eminence are exposed to censure on one hand, they are as much liable to flattery on the other. If they receive reproaches which are not due to them, they likewise receive praises which they do not deserve. In a word, the man in a high post is never regarded with an indifferent eye, but always considered as a friend or an enemy. For this reason, persons in great stations have seldom their true characters drawn till several years after their deaths. Their personal friendships and enmities must cease, and the parties they were engaged in be at an end, before their faults or their virtues can have justice done them.

When writers have the least opportunities of knowing the truth, they are in the best disposition to tell it.—ADDISON.



### ASTRONOMY IN ANCIENT AND MODERN TIMES.

THERE can have been no period in the history of mankind, in which they did not behold, with a desire to comprehend them, the changes which are daily taking place in the face of the heavens above them; and there can have been none in which they did not perceive these changes to sympathize with others in the surface of the earth around them. He who looks out upon the heavens, beholds a canopy spread forth like the half of a great sphere, of which he appears to occupy the centre. In the day-time, when it is of the colour of azure,—the hue of light in which his perception of its existence is most pleasant to him,—the sun daily takes his course, in a zone, across this fair canopy, "like a giant that renews his strength." As night approaches, the curtain of the heavens gradually loses its transparent azure tint, becomes opaque, darkens, and at length it is black as sack-cloth of hair; then come the millions of the stars, and are strewn like gems upon its surface; and in her season the moon walks forth in her brightness, and holds sway amid the dreary watches of the night. These daily changes in the heavens appear to have but little relation to the changes of vegetable life, but over the whole of the animated creation their power is absolute. The song of the birds becomes mute at nightfall, and again wakes only to welcome the returning sun. The beast lies down in the forest, the reptile crawls to his lair, and man himself sinks under the mysterious influence of the changing heavens; and returning to that state of oblivion out of which his birth first brought him, he stretches himself out to sleep. Such is the experience of a day. That of a year brings a still further knowledge of the wonderful sympathy between the changes in the heavens above him, and those in the things around him. He sees the sun not daily to describe the same path in the heavens, but at one time to travel obliquely across them in a higher, and at another time in a lower zone, so as at one time to have a longer course to run, and at another a shorter; and thus at one time to give him a longer, and at another a shorter day. This change in the elevation and consequent length of the sun's oblique path in the heavens, he soon perceives to be coupled with a change in his own perceptions of the intensity of heat and cold; when the sun's path is lowest or most oblique, he is colder than when it is highest. And not only do his own feelings sympathize with this change, but all nature around him. The Hand that covered the beast of the forest with a coat of fur, now thickens its garment. The bird, whose path is free in the heavens, now guided by a spark of that intelligence which called it into being, becomes conscious of the existence of a warmer sky in some remote unseen region of the earth, and seeks it. The green herb withers, the blossom dies, the leaf becomes sapless, and falls to the ground. Is it possible, that he who beholds all these changes around him, and who is thus deeply interested in them, who cannot but see that they are all bound together as by a chain, and made to sympathize with one another, should not seek to trace out still more of the mystery of their union, to know more of its nature and laws, and to unravel its cause.

Man is necessarily, and from the very mode and nature of his existence, a speculative being. And of all subjects of speculation, the changes in the heavens are probably those which first arrested his attention. How earnestly must the master spirits of those days, when the secret of the universe was unknown, have wished and have laboured to account for phenomena

which we now so readily explain, by means of our knowledge of the form of the earth: how must the mysterious alternation of day and night, and the march of the seasons, have distracted them, wearied their imagination, and perplexed their reasoning.

The mighty changes in the heavens controlling, as they do, all the phenomena of animal and vegetable life, necessarily couple themselves in the mind with the direct agency of the supernatural world, and thus it was that the astronomy of the ancients became incorporated with their mythology. The sky was Atlas or Uranus,—it was eternal and unchangeable; the fixed stars were its organs of vision; the planets, of which the controlling power was the sun, rolled eternally, according to their notion, in concentric orbs of crystal around the earth. These planets they called gods, and their path was along the Milky Way, and they represented them by letters in the order of their distances.

Moon. Mercury. Venus. Sun. Mars. Jupiter. Saturn.  
A E H I O T Ω

Saturn, the slowest of the planets, was taken as the symbol, and made the god of time, and, like time, Saturn destroyed his offspring; he took the wings of time and his name, *Χρόνος* (*Chronos*.)

Jupiter, the most remarkable of the planets for his splendour, supplanted his father Saturn, occupied the throne of the universe, and became the king of gods.

Mars, of the colour of blood, and placed nearer to the sun, they imagined to be endued with attributes of a warrior, and called him the god of battle.

Venus, whose clear bright light is sometimes to be seen even through the daylight; at one time precedes the sunrise, and at another follows the twilight, alternately pursuing and pursued by the sun. They believed her to produce the fertilizing dews of the morning and the evening; named her the goddess of fecundity, of beauty, and of love, and adored her under the names of Astarte, Astaroth, &c.

Mercury, the swiftest moving of the planets, was taken as the symbol of speed and lightness; he became the god of motion; and, being ever seen in the immediate neighbourhood of the sun, was designated the messenger of Olympus.

The sun was adored as the author of light, order, and fecundity; and the moon, as destined to imbibe this influence from the sun, in their conjunction, and transmit it to the earth. All the nations of antiquity erected altars to the Sun. In Egypt he was worshipped as Osiris, in Phenicia as Adonis, in Lydia as Athys, &c.

A multitude of divinities were thus frequently worshipped in the same being; a fact not to be wondered at, since the attributes which each nation assigned to their common object of worship, would necessarily partake in the errors of their knowledge of it, and the prejudices which they had attached to it. And thus, until it pleased God to make a direct revelation of his will to mankind by his Son, the history of the development of the religious principle among them, was little other than a history of the wanderings and uncertainties of the human understanding, which, placed in a world it could not comprehend, sought, nevertheless, with unwearied solicitude, to develop the secret of it, which, a spectator of the mysterious and visible prodigy of the universe imagined causes for it, supposed objects, and raised up systems; which, finding one defective, destroyed it to raise another not less faulty on its ruins; which, abhorred the errors that it renounced, misunderstood those which it embraced; repulsed the very truth for which it sought; conjured up chimeras of invisible agents

and dreaming on, without discretion and without happiness, was at length utterly bewildered in a labyrinth of illusions.

How great is the contrast! Since the age in which the heathen mythology had its origin, the religion of mankind has fixed itself upon the sure foundation of a revelation from God, and the human understanding has acquired for itself the master-secret of the universe. The wanderings of the stars on the firmament of the heavens are at length understood.

We find throughout the whole of what appeared to our ancestors the capricious motions of powerful but isolated beings, evidences of one impulse, one will, one design, one Almighty power, originating, sustaining, and controlling the whole. These beings, then, to whom, calling them their gods, it was natural that they should attribute a separate, independent, and capricious existence, subject to the indecision, the error, and the feebleness of humanity, appear to us but as the creatures of one sovereign intelligence, bound down in as passive obedience to that intelligence as the stone that falls from the hand, or the apple that falls from the tree; with no other thought, or will, or power, than that of any particle of dust blown about by the Summer's wind. Thus the whole of the sublime and gorgeous pageantry of the heathen mythology vanishes like the baseless fabric of a dream.

We know that this magnificent phantom retained its shadowy control over the intellect of man, in an age of great literary refinement, of profound knowledge in the philosophy of morals, and of high civilization; and had no revelation interposed, there could be nothing found in the mere literature, ethics, and civilization of *our* day, as distinguished from the literature, ethics, and civilization of theirs, to overthrow it; thus we might still, in respect to these, be what we are, and yet the worshippers of a host of gods: but a single ray from the Sun of Righteousness, penetrating the mystery of the universe, is sufficient to dispel the illusion of Polytheism, and instruct us in the knowledge of the one only and true God.

How prodigious has been the progress which the universal mind of man has since made, how wonderful the vantage ground on which we stand, when we look forth upon nature; the human intellect now walks to and fro in creation, as with the strength of a giant, the growth of whose stature has been through ages, and who but yet approaches the noontide of his vigour.

[Abridged from the *Magazine of Popular Science*.]

LOCKE, in his chapter of the Association of Ideas, has very curious remarks to show how, by the prejudice of education, one idea often introduces into the mind a whole set that bear no resemblance to one another in the nature of things. Among several examples of this kind, he produces the following instance:—"The ideas of goblins and spirits have really no more to do with darkness than light: yet let but a foolish maid inculcate these often on the mind of a child, and raise them there together, possibly he shall never be able to separate them again so long as he lives; but dark shall ever afterwards bring with it frightful ideas, and they shall be so joined, that he can no more bear the one than the other."—ADDISON.

A MAN advanced in years, that thinks fit to look back upon his former life, and call that only life which was passed with satisfaction and enjoyment, excluding all parts which were not pleasant to him, will find himself very young, if not in his infancy. Sickness, ill-humour, and idleness, will have robbed him of a great share of that space we ordinarily call our life. It is, therefore, the duty of every man that would be true to himself, to obtain, if possible, a disposition to be pleased, and place himself in a constant aptitude for the satisfactions of his being.—STEELE.

## THE MONTH OF MARCH.

\* \* \* \* \* 'Tis pleasant now  
To watch the first fruits of the plough;  
And from the seed so lately sown,  
And buried in the furrows brown,  
See, while we slept, the spear-like blade,  
The field with tender verdure shade.

'Tis pleasant on each hardy tree,  
Currant, or prickly gooseberry,  
Along the hawthorn's level line,  
Or bush of fragrant eglantine,  
Bramble, or pithy elder pale,  
Or larch, or woodbine's twisted trail,  
Or willow lithe, a flush of green  
To note with light transparent skreen  
At intervals the branches hide  
Of vegetable gauze; till wide  
It spreads, and thickens to the eye,  
A close-wove veil of deeper die.

'Tis pleasant to contemplate how  
Grows on the yet unmantled bough  
The swelling leaf profuse; if vain  
Of likeness to the beauteous plane,  
The forward sycamore display  
His foliage; or the shining spray  
Of chestnut to the sun protrude  
His lengthen'd and expanded bud  
Adhesive:—to remark it first  
Its brown exterior armour burst  
Of many a closely serried scale,  
Close as the steel-clad warrior's mail,  
And slowly through each loosen'd joint  
Appear with green and spiral point  
Emerging; then its braids unfold  
Plait after plait, so nicely roll'd,  
That once unwrapt in vain would art  
Fold it anew: till every part,  
Stalk, fibre, frame and framework, meet  
In union; and the leaf complete  
Light in the passing breezes plays,  
And twinkles in the sunny rays.

'Tis pleasant on the ground to pore,  
And with discerning gaze explore  
The leaves that mat the coppice dank,  
The pathway side, or hedgerow bank,  
Chequering the now prolific mould;  
With fine mosaic, manifold  
In figure, size, and tint, inlaid,  
A carpet green by nature made,  
Ere yet of damask work she pours  
From her rich loom the blooming flowers.

And now, as nature from her loom  
Pours gradual forth each opening bloom,  
'Tis pleasant all the course to see  
Of that delightful mystery:  
To see the cloven cup display  
From its spread valves in meet array  
The tender blossom's apt design,  
And texture delicately fine,  
Of virgin whiteness, or with print  
Imprest of many a rainbow tint,  
In patterns numberless dispos'd;  
And then those petals fair unclos'd  
To see, with threadlike stamens crown'd,  
And farinaceous anthers, round  
The central style; and how they throw  
Thence to the swelling chest below.

\* \* \* \* \*  
But yet does Winter harsh maintain  
With gentle Spring divided reign.  
Yet the more cautious plants deny  
To trust them to the tempting sky;  
While prompter some behold with grief  
The shrivell'd flower, the blacken'd leaf;  
Oft as the keen north-eastern gale  
Bears on his wings the arrowy hail,  
Or spreads, the nightly meadows o'er,  
Congeal'd the dewy vapour hoar.  
And yet the little birds decline  
The fabrick of their nests to twine,  
Expecting April's genial hours,  
And warmer gales, and closer bowers.

[Abridged from BISHOP MANT'S *British Months*.]

## THE GOOD PARISHIONER.

CONCEIVE him to live under a faithful minister; either judging charitably that all pastors are such, or wishing heartily that they were.

Though near to the church, he is not far from God. Like unto Justus, (*Acts xviii. 8.*) "one that worshipped God, and his house joined hard to the synagogue." Otherwise, if his distance from the church be great, his diligence is the greater to come thither in season.

He is timely at the beginning of prayer. Yet, as Tully charged some dissolute people for being such sluggards, that they never saw the sun rising or setting, as being always up after the one, and a-bed before the other; so some negligent people never hear prayers begun, or sermon ended, the confession being past before they come, and the blessing not come before they are passed away.

In sermon he sets himself to hear God in the minister. Therefore divesteth he himself of all prejudice, the jaundice in the eyes of the soul, presenting colours false unto it. He hearkens very attentively: 'tis a shame when the church itself is a cemetery, wherein the living sleep above ground as the dead do beneath.

At every point that concerns himself, he turns down a leaf in his heart, and rejoiceth that God's word hath pierced him, as hoping that whilst his soul smarts it heals. And as it is no manners for him that hath good meat before him, to ask whence it came; so hearing an excellent sermon, he never inquires whence the preacher had it, or whether it was not before in print, but begins to practise it.

He accuseth not his minister of spite for particularizing him. It does not follow that the archer aimed because the arrow hit. Rather our parishioner reasoneth thus; If my sin be notorious, how could the minister miss it? If secret, how could he hit it without God's direction? But foolish hearers make even the bells of Aaron's garments to clink as they think. And a guilty conscience is like a whirlpool, drawing in all to itself which otherwise would pass by. One, causelessly disaffected to his minister, complained that he in his last sermon had personally inveighed against him, and accused him thereof to a grave religious gentleman in the parish. "Truly," said the gentleman, "I had thought in his sermon he had meant me, for it touched my heart." This rebated the edge of the other's anger.

He hides not himself from any parish office which seeks for him. If chosen churchwarden, he is not busily idle, rather to trouble than reform, presenting all things but those which he should. If overseer of the poor, he is careful the rates be made indifferent (whose inequality oftentimes is more burdensome than the sum) and well disposed of. He measures not people's wants by their clamorous complaining, and dispenseth more to those that deserve, than to them that only need, relief.

He is bountiful in contributing to the repair of God's house. For though he be not of their opinion, who would have the churches under the Gospel conformed to the magnificence of Solomon's temple (whose porch would serve us for a church,) and adorn them so gaudily, that devotion is more distracted than raised, and men's souls rather dazzled than lightened; yet he conceives it fitting that such sacred places should be handsomely and decently maintained: the rather because the climacterical year of many churches from their first foundation, may seem to happen in our days, so old that their ruin is threatened if not speedily repaired.—FULLER, 1642.

## ON HEAT; AND ITS APPLICATION TO THE VARIOUS PURPOSES OF LIFE.

FROM the consideration of the subject of LIGHT\*, the mind passes, by a natural transition, to that of HEAT: for these agents, though not necessarily or always, are, in reality, very often associated together; and they are each of them characterized by the want of that property which almost seems essential to matter, namely, weight. In their relation to the physical existence of man, and animal life in general, there is this difference between them,—the presence of light is only indirectly necessary,—the presence of heat is directly necessary. Different degrees of heat, indeed, are requisite for different species of animals; but if the heat to which any individual animal be exposed is much below that which is natural to the species, and be continued for a sufficient length of time, all the vital functions are eventually destroyed; or, as in the event of the hybernation of particular species of animals, are at least partially suspended.

The degree of heat adapted to the human frame is so nicely adjusted to the bodily feelings of man, that, if we take a range of fifty degrees of Fahrenheit's thermometer, as indicating the average extent of variation to which the body is exposed in this climate, it will be found that a difference of two or three degrees, above or below a given point, will generally be sufficient to create an uncomfortable sensation. It has been ascertained that the point of 62° or 63° of Fahrenheit is that which, upon an average of many individuals, is, in this climate, the most congenial to the human body. But it is a merciful provision of nature, considering the numerous vicissitudes of human life, that man is capable of resisting very great, and even sudden, alterations of temperature, without any serious inconvenience.

This uniformity of animal temperature is, in a great measure, owing to the process of evaporation, which takes place from the general surface of the body, and from the air-vessels of the lungs; for if animals are confined in a chamber, the atmosphere of which is so moist that no evaporation can take place from the surface of their bodies, it has been found that their temperature is as capable of being steadily and uniformly raised, by increasing the heat of the room in which they are placed, as if they were inanimate matter.

The application of heat to the various purposes of life has a very extensive range; and with reference to the daily preparation of the more common forms of our food, whether animal or vegetable, distinguishes the habits of man from those of every other species. Without the power, indeed, of commanding the application of heat in its various degrees, many of the most important arts of civilized society would fail.

Without that power, how could clay be hardened into the state of brick, of which material most of the habitations in many large cities are constructed? Without the aid of the same agent, how could quicklime, the base of every common cement, be produced from limestone? Without the application of the higher degrees of heat, metals could neither be reduced from their ores, nor the reduced metals be worked into convenient forms. Neither, without the same aid, could that most useful substance, glass, be produced; a material which, in comparison, hardly known to the ancients, has, in modern times, become almost indispensably necessary to persons of the poorest class, as a substance of daily use for various economical purposes. But if we consider the pro-

\* See *Saturday Magazine*, Vol. IV., p. 148.



perties of this valuable compound, with reference to the aid derived from it in the investigations of science, there are few substances of higher importance to the philosopher. Among the most useful of those properties are its impermeability to fluids, either in a liquid or aeriform state, its ready permeability to light, together with its power of modifying the qualities of that fluid, and its resistance to almost all those chemical agents, which are capable of destroying the texture of most other substances with which they remain long in contact.

In considering the extensive utility of the thermometer and barometer, in their common and most convenient forms, it is evident that their practical value almost entirely depends on the transparency of glass, and on its impermeability to air; and the same properties very greatly enhance the value of glass, in all those philosophical experiments which are carried on under what is called the exhausted receiver.

But the most important result of the transparency of glass, is the modification which light undergoes in its passage through lenticular masses of that material. When, for instance, in consequence of disease or advancing age, the eye no longer retains the power of discerning objects distinctly, how much of hourly comfort, as well as of intellectual enjoyment, would be lost, were we not able to supply the natural defect by the artificial aid of glasses of the requisite form and density. And, again, how many important facts in the physiology of animals and vegetables, as also in the constitution of inanimate bodies, would have remained for ever undiscovered, but for the aid of the microscope; the magnifying powers of which, depend on the transparency and form, and the right adjustment of those pieces of glass through which the objects subjected to observation are viewed? And, lastly, how shall we estimate the value of those discoveries which the world owes to that wonderful instrument, the telescope?

Having referred to the effects produced by heat on various forms of matter, let us inquire what facilities nature has placed within our reach, for the purpose of exciting and maintaining heat itself. The chemist, in his laboratory, surrounded by the numerous and various agents which he is constantly employing, can never have any difficulty in producing it; but as there are few individuals who have commonly such magic instruments at hand, and even if they had, it is probable that they would want both the leisure and inclination to preserve them in a state fitted to produce at any moment the intended effect. The means of maintaining heat, when once excited to a sufficient extent and degree of intensity for the various purposes of social and civilized life, shall now be considered. To this important purpose, among others, the products of the vegetable world, both in a fossil and recent state are destined?

In the early periods of civilization, and while the population of a country bears a small proportion to the extent of soil occupied, the indigenous forests easily supply an ample quantity of fuel; or, in the absence of those larger species of the vegetable kingdom, which may be described under the term of *timber*, the humblest productions of the morass, though not the most desirable, are, however, a sufficient substitute. Thus the *sphagnum palustre*, and other mosses, by their successive growth and decay, form the combustible substratum of those extensive and uncultivated tracts in Ireland, which contribute, by the turf and peat which they afford, to the comfort of myriads of individuals, who, were it not for this source of supply, would be in total want of one of the principal necessities of life.

In many populous districts of this island, the aboriginal forests have long since been cleared from the surface of the earth, and their site is now occupied by cultivated lands and a condensed population. The former source of fuel has consequently in such parts long since failed; but the clearing of the surface has, in many places, detected that invaluable mineral combustible, which, usually bearing in itself indubitable marks of a vegetable origin, from the traces of organization still apparent in almost every part of its substance, was deposited ages before it was wanted, as a future substitute for the fuel which, in the meantime, has been derived from the actually existing vegetable kingdom.

It is not intended here to enter into the general consideration of those geological formations called *coal-fields*, which are the repositories of this useful mineral; but there is one circumstance in their history, so evidently calculated to facilitate the labour of man in obtaining this substance, and to extend its supply, and so remarkably, though not exclusively, characteristic of those particular formations, that, though not obvious to a general observer, it cannot fail to arrest the attention of those to whom it is pointed out. A coal-field may be represented, in a popular description, as consisting of a succession of alternating strata of coal and sand-stone, &c., which, having been originally deposited in a basin-shaped cavity, in such a manner as to be at the same time parallel to the concave surface of the basin, and to each other, have been subsequently broken up by some force, that has thrown the planes of the ruptured masses into various directions. Now, had the strata remained undisturbed, a very considerable proportion of the coal which is now quarried, would most probably never have been obtained by human industry; for the strata dipping down from the circumference towards the centre of the basin, that perpendicular depth beyond which it is practically impossible to work the coal, would soon have been reached in the operation of mining. But in consequence of the rupture, and consequent dislocation of the strata, many of those portions which were originally deposited at such a depth beneath the surface as would have rendered the working of them impossible, have been thrown up to the very surface, and thus have become available to the miner.

[Abridged from KIDD'S *Bridgewater Treatise*.]

### THE ECONOMY OF NATURE

..... Each mose,  
Each shell, each crawling insect, holds a rank  
Important in the plan of Him who framed  
This scale of beings; holds a rank, which lost,  
Would break the chain, and leave behind a gap  
Which nature's self would rue.—THOMSON.

THERE is no study, perhaps, more delightful than that of tracing the all-wise disposition of the Creator in the reciprocal uses to which all created things were designed. It is impossible to contemplate this subject without being struck with the infinite wisdom of Almighty God. We find things so connected together that they are all subservient to the same end, and all contribute to assist in the preservation of the several species. The death and destruction, therefore, of one thing, is made useful in the restitution of another, and this is one of the most interesting facts in the economy of Nature. Everything is so perfectly contrived, so wonderfully propagated, and so providentially supported, that we are not only lost in wonder when we reflect upon them, but are obliged to confess that after all the researches and observations which have been made, an ample field still remains

for fresh remarks, and interesting discoveries in the works of nature.

Almighty Being,  
Cause and support of all things, can I view  
These objects of my wonder; can I feel  
These fine sensations, and not think of thee?

It would afford me a satisfaction which I cannot describe, could I think that these reflections, feebly as they are expressed, would lead any one to acknowledge the power and goodness of the Creator, as seen in the works of his creation, and to improve his mind by the study of them. In every plant, in every insect, we may observe some beauty, or some curious properties which are not to be found in other bodies. On comparing them we shall be convinced that they were not created by chance, but were contrived for some useful purpose—*JESSE'S Gleanings.*

### POISONOUS PLANTS. III.

#### HELLEBORE.

OUR engravings represent three plants, differing materially from each other, but which all bear the name of Hellebore; and as their properties are very different, it is worth while to be able to understand the distinction.

Of these plants the *White Hellebore* is the only species which is decidedly poisonous, and its noxious properties reside not only in the root, which is the most deadly poison, but also in every other part of the plant; even the leaves and seeds prove deleterious to many animals. The dried root has no peculiar smell, but a durable, nauseous, acrid, bitterish taste, burning the mouth and jaws; when powdered, if applied to a wound, it affects the constitution in the same manner as taken inwardly. It is supposed

to produce madness;—Shakspeare alludes to this property of Hellebore in his tragedy of *Macbeth*:—

Have we eaten of the insane root  
That takes the reason prisoner?

It has been used in medicine, particularly by the ancients; but, if it is a safe medicine, it is at present seldom employed. It is a native of Italy, Switzerland, Austria, &c.; and was first brought into this country about the year 1596.

The *Black Hellebore* is very different from either of the others. It takes its specific name from the colour of the root, which is covered with a coarse black integument; it was originally brought from Austria and Italy, and first cultivated in England about two hundred years since. If the weather is mild, it is in bloom in January, and becomes no insignificant ornament to the garden at that dreary season of the year.

Although the *Black Hellebore* is not decidedly poisonous, its action on the system is extremely violent; if a portion of the recent root is chewed, the tongue, in a few minutes, becomes benumbed, and loses its sense of feeling, as it does after eating or supping anything too hot. The ancients considered it a wonderful remedy for madness, but its use at present is entirely laid aside.

The *Fetid Hellebore*, Great Black Hellebore, or Bear's Foot, for it has all these names, grows wild in England, and flowers about February. The blossom is of a pale green colour; the smell of the recent plant is extremely unpleasant, and the taste so acrid and bitter as, if chewed, to remove the skin from the mouth. A decoction of the leaves is commonly employed as a domestic medicine against intestinal worms; but although, when carefully administered, it may be useful, several instances are on record of its fatal effects, when taken in too large a quantity.



WHITE HELLEBORE, or VERATRUM  
(*Veratrum album.*)



FETID HELLEBORE, or BEAR'S-FOOT,  
(*Helleborus fetidus.*)



BLACK HELLEBORE, or CHRISTMAS ROSE,  
(*Helleborus niger.*)